

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER 01013.0089.00US00
<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371</b>		U.S. APPLICATION NO. (if known) <b>10/088863</b>
INTERNATIONAL APPLICATION NO. PCT/EP00/09238	INTERNATIONAL FILING DATE September 21, 2000	PRIORITY DATE CLAIMED September 23, 1999
TITLE OF INVENTION Method for producing at least one test piece, in particular consisting of fiber reinforced material, for testing the quality of an adhesive joint		
APPLICANT(S) FOR DO/EO/US Ulrike GOERSCHHEL, Thomas KRUSCHWITZ, Jan PROCKAT		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
<ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.</li> <li>4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31).</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))                         <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input checked="" type="checkbox"/> has been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US)</li> </ol> </li> <li>6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).                         <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> is attached hereto.</li> <li>b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</li> </ol> </li> <li>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).                         <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> have been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input checked="" type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>9. <input type="checkbox"/> An Oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</li> <li>10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol>		
Items 11 to 20 below concern document(s) or information included:		
<ol style="list-style-type: none"> <li>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 36 CFR 3.28 and 3.31 is included.</li> <li>13. <input checked="" type="checkbox"/> A <b>FIRST</b> preliminary amendment.</li> <li>14. <input type="checkbox"/> A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment.</li> <li>15. <input type="checkbox"/> A substitute specification.</li> <li>16. <input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.</li> <li>18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4).</li> <li>19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).</li> <li>20. <input type="checkbox"/> Other items or information.</li> </ol>		

JC10 Rec'd PCT/PTO 22 MAR 2002

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>10/088863</b>		INTERNATIONAL APPLICATION NO. PCT/EP00/09238		ATTORNEY'S DOCKET NO. 01013.0089.00US00	
21. <input checked="" type="checkbox"/> The following fees are submitted:				CALCULATIONS PTO USE ONLY	
<b>BASIC NATIONAL FEE (37 CFR 1.492 (A) (1) - (5))</b> \$ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2) paid to USPTO and International Search Report not prepared by the EPO or JPO ..... <b>1000.00</b> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... <b>860.00</b> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2) paid to USPTO..... <b>710.00</b> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33 (1)-(4) ..... <b>690.00</b> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims satisfied provisions of PCT Article 33 (1)-(4) ..... <b>100.00</b>					
ENTER APPROPRIATE BASIC FEE AMOUNT =				<b>\$860</b>	
Surcharge of \$130.00 for furnishing the Oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$	
Total claims	13 - 20 =	0	X \$ 18.00	\$	
Independent claims	1 - 3 -	0	X \$ 80.00	\$	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			X \$270.00	\$	
TOTAL OF ABOVE CALCULATIONS =				\$	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$	
SUBTOTAL =				<b>\$860</b>	
Processing fee of \$130.00 for furnishing the Oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
TOTAL NATIONAL FEE =				\$	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +				\$	
TOTAL FEES ENCLOSED =				<b>\$860</b>	
				Amount to be refunded:	\$
				charged:	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$860 to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. 08-3038 referencing the docket number shown above in the amount of \$ to cover the above fees. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 08-3038 referencing docket number shown above. A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> Fees are to be charged to a credit card. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO:		SIGNATURE: <u>David P. Owen</u>			
		NAME: <u>David P. Owen</u>			
		REGISTRATION NUMBER: <u>43,344</u>			



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May 17, 2002

Assistant Commissioner for Patents  
Washington, D.C. 20231

Attention: John Anderson  
Facsimile No. (703) 305-3230

Re: Charges to Deposit Account

Sir:

The Commissioner is authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account No. 08-3038, for the applications listed below, referencing the docket numbers shown:

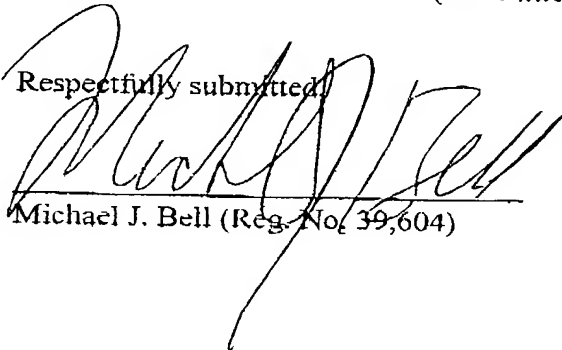
<u>Serial number</u>	<u>Docket number</u>
10/088,863	01013.0089.00US00
10/088,864	01013.0087.00US00
10/088,865	01013.0088.00US00

Please note, the correspondence address for the above-referenced applications is as follows:

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ENGLAND

Please direct telephone calls to David Owen at 011 44 20 7628 3303 (note: this telephone number is in London, England).

Respectfully submitted,

  
Michael J. Bell (Reg. No. 39,604)

Enclosures

10/088863

IC10 Rec'd PCT/PTO 22 MAR 2002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Serial No.: not yet assigned

Confirmation No.: not yet assigned

Filed: Concurrently

Title: Method for producing at least one test piece, in particular consisting of fiber reinforced material, for testing the quality of an adhesive joint

Group Art Unit: not yet assigned

Examiner: not yet assigned

Any. Dkt. No.: 01013.0089.00US00

**FIRST PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Before undertaking the examination of the above noted application, please amend the above-identified application as follows:

**AMENDMENTS:**

**IN THE SPECIFICATION:**

Please replace the title beginning at page 1, line 1, with the following rewritten title:

--METHOD FOR PRODUCING A TEST PIECE FOR TESTING THE QUALITY  
OF AN ADHESIVE JOINT--

Please insert the following title beginning at page 1, line 3:

--Background of the Invention--

Please replace the title beginning at page 1, line 4 with the following rewritten title:

--1. Field of the Invention--

Please insert the following title beginning at page 1, line 8:

--2. Description of the Related Art--

Please delete the title "Prior art" at page 1, line 20:

Please delete the title "Patent claims" at page 6, line 1, and replace it with the paragraph:

--What is claimed is:--

Please replace the paragraph beginning at page 5, line 25, with the following rewritten paragraph:

-- As shown in Fig. 3, the projections 8 which are severed and bonded to each other in Fig. 2 as test pieces 14 can also be divided into individual test piece sections 16. These test piece sections 16 are firstly easier to handle than the test piece 14 during the testing of the adhesive joint on account of their smaller size. Secondly, a plurality of tests of an adhesive joint can be carried out in this manner, which increases the accuracy of the result of the testing of the quality of the adhesive joint. --

IN THE CLAIMS:

Please cancel claims 1-5.

Please add new claims 6-18 as follows:

6. A method for producing at least one test piece for testing an adhesive joint, comprising:
  - (a) providing at least two joining parts, each joining part comprising at least one joining edge and at least one projection formed integrally to the joining part and having a test edge;
  - (b) positioning the joining parts so that at least one joining edge and at least one test edge of each joining part overlap at least partially;
  - (c) forming the adhesive joint in a region between at least one joining edge and at least one test edge of the joining parts;
  - (d) severing at least one of the joined projections from the joining parts;
  - (e) providing at least one of the severed projections as a test piece; and
  - (f) providing at least one of the severed joining parts for non-test purposes.
7. The method as claimed in claim 6, wherein the severed test piece is divided into a plurality of test piece sections.

8. The method as claimed in claim 6, wherein the adhesive joint is formed along a single edge comprising a joining edge and a test edge of each joining part.
9. The method as claimed in claim 7, wherein the adhesive joint is formed along a single edge comprising a joining edge and a test edge of each joining part.
10. The method as claimed in claim 6, wherein at least one adhesive seam is formed by the adhesive joint.
11. The method as claimed in claim 10, wherein step (d) comprises severing the projections substantially perpendicularly to the adhesive seam.
12. The method as claimed in claim 6, wherein the joining parts comprise a fiber reinforced material.
13. A method for evaluating an adhesive joint formed between two parts of an assembly, comprising:
  - (a) providing the two parts, each part comprising a projection;
  - (b) positioning the parts so that at least a portion of the parts overlap, the overlapping portions including at least a portion of the projections;
  - (c) forming the adhesive joint in a region between the overlapping portions;
  - (d) severing the joined projections from the joined parts; and
  - (e) testing the adhesive joint formed between the severed projections to determine the properties of the adhesive joint formed between the joined parts.
14. The method as claimed in claim 13, wherein the joined projections are divided into a plurality of test piece sections.
15. The method as claimed in claim 13, wherein the adhesive joint is formed along a single edge of each part, the single edge extending along at least a portion of the projection of each part.
16. The method as claimed in claim 13, wherein at least one adhesive seam is formed by the adhesive joint.

17. The method as claimed in claim 16, wherein step (d) comprises severing the joined projections substantially perpendicularly to an adhesive seam.

18. The method as claimed in claim 13, wherein the joining parts comprise a fiber reinforced material.

**REMARKS:**

**AMENDMENTS TO THE SPECIFICATION:**

The above noted amendments to the specification have been made to conform to U.S. practice, to correct grammatical errors, and to more accurately reflect the scope of the invention.

**AMENDMENTS TO THE CLAIMS:**

The above noted amendments to the claims have been made to conform to U.S. practice and so that the scope and language of the claims is more precise and clear in defining what the Applicant considers to be his invention.

Any extension of time that may be deemed necessary to further the prosecution of this application is hereby requested. The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 08-3038, referencing Order No. 01013.0089.00US00.

The Examiner is respectfully requested to directly contact the undersigned by telephone at the number given below to resolve any issues or questions presented by this paper,

Respectfully submitted,



David P. Owen  
Patent Attorney  
Reg. No. 43,344  
Tel. 011 44 20 7628 3303  
(Please note: this telephone number is in London, United Kingdom)

Date: 22 March 2002



**Version with Markings to Show Changes Made**

In the Specification:

Title beginning at page 1, line 1:

Method for producing a[t least one] test piece[, in particular consisting of fiber reinforced material,] for testing the quality of an adhesive joint

Title beginning at page 1, line 4:

1. [Technical] Field of the Invention

Paragraph beginning at page 5, line 25:

As shown[It is schematically arranged] in Fig. 3, [that] the projections 8 which are severed and bonded to each other in Fig. 2 as test pieces 14 can also be divided into individual test piece sections 16. These test piece sections 16 are firstly easier to handle than the test piece 14 during the testing of the adhesive joint on account of their smaller size. Secondly, a plurality of tests of an adhesive joint can be carried out in this manner, which increases the accuracy of the result of the testing of the quality of the adhesive joint.

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Method for producing at least one test piece, in particular consisting of fiber reinforced material, for testing the quality of an adhesive joint

Technical field

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The present invention relates to a method for producing at least one test piece, in particular consisting of fiber reinforced material, for testing the quality of an adhesive joint.

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During the production of a freight car body for a rail vehicle it is known to join individual fiber reinforced components of the freight car body by means of adhesive joints. These adhesive joints between the components of the freight car body are exposed both to static loads and to high forces and stresses which may occur in the freight car body when the rail vehicle is traveling around bends, for example. Specifically, it has therefore to be ensured that the adhesive joints withstand the forces and stresses which occur in the joined components.

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This is achieved by testing the quality of the adhesive joints. Great demands have to be placed here on the accuracy of the test results, in order to ensure that the fiber reinforced components hold securely together even when the adhesive joints are subjected to static and dynamic stresses.

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Prior art

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In order to check or determine the quality of an adhesive joint, individual fiber reinforced parts having small dimensions are conventionally joined together by an adhesive joint to form a test piece in a test laboratory. An adhesive seam of the test piece, which seam is produced in this manner under laboratory conditions, is then tested with regard to its quality. Although representative characteristic values of an adhesive joint between fiber reinforced components can be determined using this test piece, there is, however, the problem that the test piece produced under laboratory conditions is not subject, during its manufacture, to the actual joining conditions which predominate in the components used of a freight car body. Thus,

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during the investigation of the laboratory test piece, additional factors influencing the quality of an adhesive joint, such as processing temperature, air humidity, pressure, degree of pollution in the factory in which the components are joined, the quality of the pretreatment of the components which is actually carried out and displacement and stresses during the joining are neither ascertained nor included in the qualitative evaluation of the adhesive joint. It is

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therefore not always possible to determine sufficiently accurate characteristic values of an adhesive joint between components which is formed under actual conditions to be determined using the test piece produced by the known method.

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Summary of the invention

The invention is therefore based on the object of providing a method for producing a test piece, in which a test piece can be obtained from an adhesive joint formed under actual  
5 conditions, with little outlay on labor and time and with little structural outlay.

This object is achieved by the method described in claim 1.

Accordingly, for the production of at least one test piece initially at least two panel-shaped  
10 joining parts are provided. In this case, the joining parts are, for example, individual components which, in order to produce a freight car body for a rail vehicle, can be used in the region of side walls, floor or ceiling of the freight car body. For use as components of a freight car body it has proven advantageous to form the joining parts from a fiber reinforced material, in particular from a fiber reinforced plastic. This enables the production of a stable  
15 freight car body structure having a relatively low weight to be achieved in an advantageous manner. Furthermore, the joining parts each have at least one projection which is formed integrally on at least one of their edge sections. Accordingly, a projection is connected integrally to an edge section of a joining part, with the result that the joining part and its projection can be manufactured from one workpiece. The respective joining part together  
20 with its projection arranged thereon may thus be cut out of a fiber reinforced panel, for example. The shape of the individual joining part is indeed matched largely to the functional dimensions of the joining part as regards its use, for example for installation in a freight car body. However, because of the projection which is designed as a panel-shaped extension of an edge section of the joining part, the joining part takes on a contour which differs from its  
25 functional dimensions. The formation of the projection means that additional material is therefore provided on a joining part which is provided as test piece material.

After provision of the panel-shaped joining parts, the at least two joining parts are joined under actual joining conditions in such a manner that a longitudinal edge of the one joining  
30 part essentially overlaps the longitudinal edge of the other joining part. In this case, the term "longitudinal edge" of a joining part is understood to be an edge region which extends continuously along the joining part and along the projection integrally formed on it. The longitudinal edge therefore runs along an edge region of the joining part and of the integrally formed projection. Subsequently, an adhesive is introduced into a region between the joined  
35 longitudinal edges of the opposite joining parts and their projections. This ensures the formation of an adhesive joint for fastening the joining parts to each other.

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After the joining parts have been bonded along their longitudinal edges, the projections which have been bonded together at their longitudinal edges are severed from the joining parts. During this severing of the projections the joining parts which have been joined together are simultaneously cut to their functional dimensions with regard to a further use, for example as components of a freight car body structure. A further matching of the assembled joining parts to their required dimensions and functional geometry can therefore be omitted. This considerably simplifies the production process. The severed projections which contain the adhesive joint of the joining parts assembled under actual conditions are subsequently provided as test pieces for checking the quality of the adhesive joint between the joining parts.

The method described for producing a test piece can be carried out simply, rapidly and with comparatively little outlay, since the test piece is obtained during production of the joining parts. Additional working steps which are required for producing a test piece under laboratory conditions are therefore omitted. In particular, however, a test piece is provided, the adhesive joint of which has the properties of the adhesive seam actually formed on the joining parts and can therefore serve as documentation and for testing the adhesive process actually implemented.

Advantageous embodiments of the method according to the invention are described in the other claims.

It is preferable for the severed test piece to be divided into a plurality of individual test piece sections. This division of the test piece firstly enables proportions to be produced with regard to the size of the test piece sections, which proportions facilitate handling and correct positioning of the test piece sections during the investigation of the adhesive joint. Secondly, a plurality of test pieces are obtained, on each of which the quality of the adhesive joint can be tested. This makes it possible to carry out repeated tests of the adhesive joint formed under actual conditions and to therefore confirm a test result.

According to a preferred embodiment of the method according to the invention, joining parts which essentially correspond in their dimensions are used. This enables the joining parts to be joined in a mirror-symmetrical manner at their longitudinal edges, in which case an overlapping of the longitudinal edges can easily be produced on account of the corresponding geometry.

With the formation of the adhesive joint it is favorable if at least one adhesive seam is formed between the joining parts by said adhesive joint. In this connection, the adhesive seam runs

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preferably essentially parallel to and along the longitudinal edges of the joining parts in the region in which the longitudinal edges of the joining parts and the projections arranged thereon overlap. This arrangement of the adhesive seam ensures a secure and fixed joint between the joining parts.

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For the shaping of the test piece and of the individual test piece sections, it is preferred to sever or divide off the projections, when severing them from the bonded joining parts, and/or the individual test piece sections essentially perpendicularly with respect to the adhesive seam which runs through the projections or the test piece. This arrangement of the points of separation essentially perpendicularly with respect to the adhesive seam and the longitudinal edges considerably simplifies the handling of the severed test pieces during the subsequent testing of their quality.

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#### Brief description of the drawings

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The invention will be explained in greater detail below with reference to an embodiment which is illustrated by way of example in the drawings, in which:

- Fig. 1 shows a perspective partial view of joining parts bonded to each other according to the invention;
- Fig. 2 shows a perspective partial view of joining parts and projections in a disassembled illustration, and
- Fig. 3 shows a perspective view of test piece sections.

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#### Detailed description of an embodiment of the invention

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As can be seen in Fig. 1, two panel-shaped joining parts 2, 3 are joined at their longitudinal edges 4. The longitudinal edges 4 each run along the entire longitudinal extent of a panel-shaped joining part 2, 3 and parallel to an essentially straight end side 12 of a joining part 2, 3. In this case, the two joining parts 2, 3 correspond in their dimensions and lie opposite each other in an essentially mirror-symmetrical manner. Each joining part 2, 3 has, on its edge section 6, an integrally formed, rectangular projection 8 which extends to the right and from the edge section 6 of the joining part 2, 3, in the plane of projection. The projections 8 are designed such that they protrude over the edge sections 6 of the joining parts 2, 3 in such a manner that they overlap the edge sections 6 to the right. This enables the required shape of the projections 8 as panel-shaped extensions of the edge sections 6 of the joining parts 2, 3 to be achieved in a structurally simple manner.

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- The longitudinal edges 4 of the joining parts 2, 3 and their projections 8 are arranged essentially parallel to one another and overlap along their entire longitudinal extent. An adhesive layer is provided in the region of overlap of the longitudinal edges 4, with the result that the two joining parts 2, 3 are bonded to each other with the intermediate element 10 inserted in between. By means of the adhesive joint provided in the region between the overlapping longitudinal edges 4 of the joining parts 2, 3 an adhesive seam is therefore formed both between the upper joining part 2 and the intermediate element 10 and between the lower joining part 3. These adhesive seams ensure a secure adhesion of the joining parts 2, 3 to each other and extend continuously along the joining parts 2, 3 and along their integrally formed projections 8. The projections 8, which are provided during the construction of the joining parts 2, 3, are, as components of the joining parts 2, 3, exposed to the same joining conditions as the joining parts 2, 3, such as, for example, pretreatment, environmental influences and stresses during the joining.
- After the joining parts 2, 3 according to Fig. 1 have been joined together, the projections 8 are severed from the joining parts 2, 3 according to Fig. 2. In the process, the bonded joining parts 2, 3 obtain their functional geometry (which can be seen on the left in Fig. 2) with regard to further use, for example as a component for a freight car body of a rail vehicle. In contrast, the severed projections 8 are used as test pieces 14 for determining and/or checking the characteristic values and quality of the adhesive joint obtained between the joining parts 2, 3. The adhesive joint of the test piece 14 has the properties of the adhesive seams, which are constructed under actual conditions, between the joining parts 2, 3 and can therefore serve as documentation for and for testing of, the bonding process actually implemented.
- It is schematically arranged in Fig. 3 that the projections 8 which are severed and bonded to each other in Fig. 2 as test pieces 14 can also be divided into individual test piece sections 16. These test piece sections 16 are firstly easier to handle than the test piece 14 during the testing of the adhesive joint on account of their smaller size. Secondly, a plurality of tests of an adhesive joint can be carried out in this manner, which increases the accuracy of the result of the testing of the quality of the adhesive joint.
- The method according to the invention can be used not only for adhesive joints between fiber reinforced materials but also for other material pairings, such as plastic/plastic and metal/plastic and also metal/metal.

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Patent claims

1. A method for producing at least one test piece (14), in particular consisting of fiber reinforced material, for testing the quality of an adhesive joint, having the following steps:
  - (a) provision of at least two panel-shaped joining parts (2, 3), the joining parts (2, 3) each comprising at least one projection (8) which is formed integrally on at least one of their edge sections (6);
  - (b) joining the joining parts (2, 3), so that longitudinal edges (4) of the joining parts (2, 3) and of their projections (8) essentially overlap;
  - (c) forming the adhesive joint in a region between the joined longitudinal edges (4);
  - (d) severing the projections (8), which are joined at their longitudinal edges (4), from the joining parts (2, 3), the joining parts (2, 3) being cut to size at the same time; and
  - (e) providing the severed projections (8) as test pieces (14).
2. The method as claimed in claim 1, characterized in that the severed test piece (14) is divided into a plurality of test piece sections (16).
3. The method as claimed in claim 1 or 2, characterized in that joining parts (2, 3) which essentially correspond in their dimensions are used.
4. The method as claimed in at least one of the preceding claims, characterized in that at least one adhesive seam is formed by the adhesive joint.
5. The method as claimed in claim 4, characterized in that during the method step (d) the projections (8) and/or the individual test piece sections (16) are severed essentially perpendicularly with respect to the adhesive seam.

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES  
PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum  
Internationales Büro



(43) Internationales Veröffentlichungsdatum  
29. März 2001 (29.03.2001)

PCT

(10) Internationale Veröffentlichungsnummer  
WO 01/22054 A1

(51) Internationale Patentklassifikation<sup>7</sup>: G01N 3/02, 1/04

(21) Internationales Aktenzeichen: PCT/EP00/09238

(22) Internationales Anmeldedatum:  
21. September 2000 (21.09.2000)

(25) Einreichungssprache: Deutsch

(26) Veröffentlichungssprache: Deutsch

(30) Angaben zur Priorität:  
199 45 556.2 23. September 1999 (23.09.1999) DE

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(84) Bestimmungsstaaten (regional): europäisches Patent (AT,  
BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,  
NL, PT, SE).

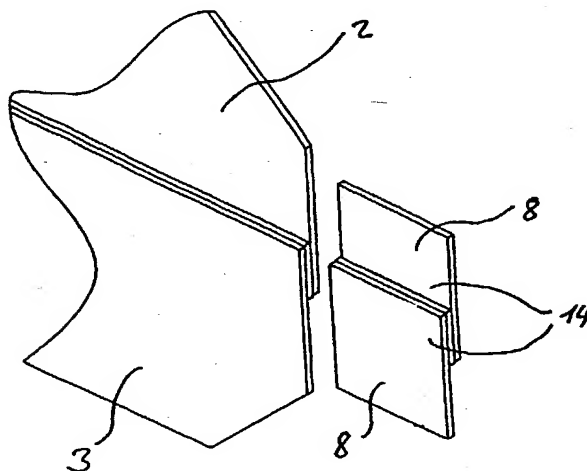
Veröffentlicht:

- Mit internationalem Recherchenbericht.
- Vor Ablauf der für Änderungen der Ansprüche geltenden  
Frist; Veröffentlichung wird wiederholt, falls Änderungen  
eintreffen.

[Fortsetzung auf der nächsten Seite]

(54) Title: METHOD FOR PRODUCING AT LEAST ONE TESTING BODY, ESPECIALLY CONSISTING OF A FIBRE-REIN-  
FORCED MATERIAL, FOR TESTING THE QUALITY OF AN ADHESIVE JOINT

(54) Bezeichnung: VERFAHREN ZUM HERSTELLEN VON ZUMINDEST EINEM PRÜFKÖRPER, INSBESONDERE AUS  
FASERVERBUNDWERKSTOFF, FÜR EINE QUALITÄTSPRÜFUNG EINER KLEBEVERBINDUNG



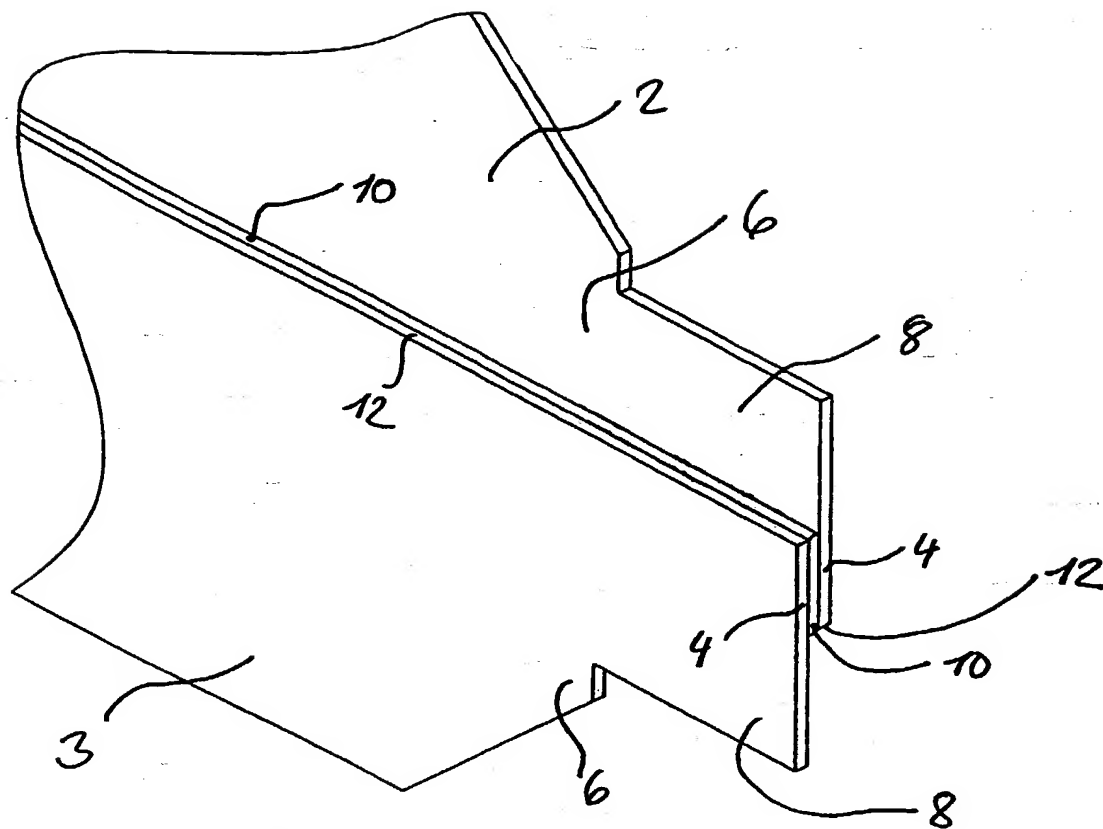
(57) Abstract: The invention relates to a method for producing at least one testing body (14), especially consisting of a fibre-rein-  
forced material, for quality-testing an adhesive joint. At least two panel-shaped joint parts (2, 3) are provided. Said joint parts (2,  
3) each comprise at least one projection (8) which is moulded onto one of their edge sections so that they form a single piece. The  
joint parts (2, 3) are then interjoined in such a way that the longitudinal edges (4) of the joint parts (2, 3) and their projections (6)  
essentially overlap. The adhesive joint is then formed in an area between the interjoined longitudinal edges (4). The projections (8)  
of the joint parts (2, 3), which are joined on their longitudinal edges (4), are subsequently separated from the joint parts (2, 3), the  
joint parts being cut out at the same time. The separated projections (8) are provided as testing bodies (14).

[Fortsetzung auf der nächsten Seite]



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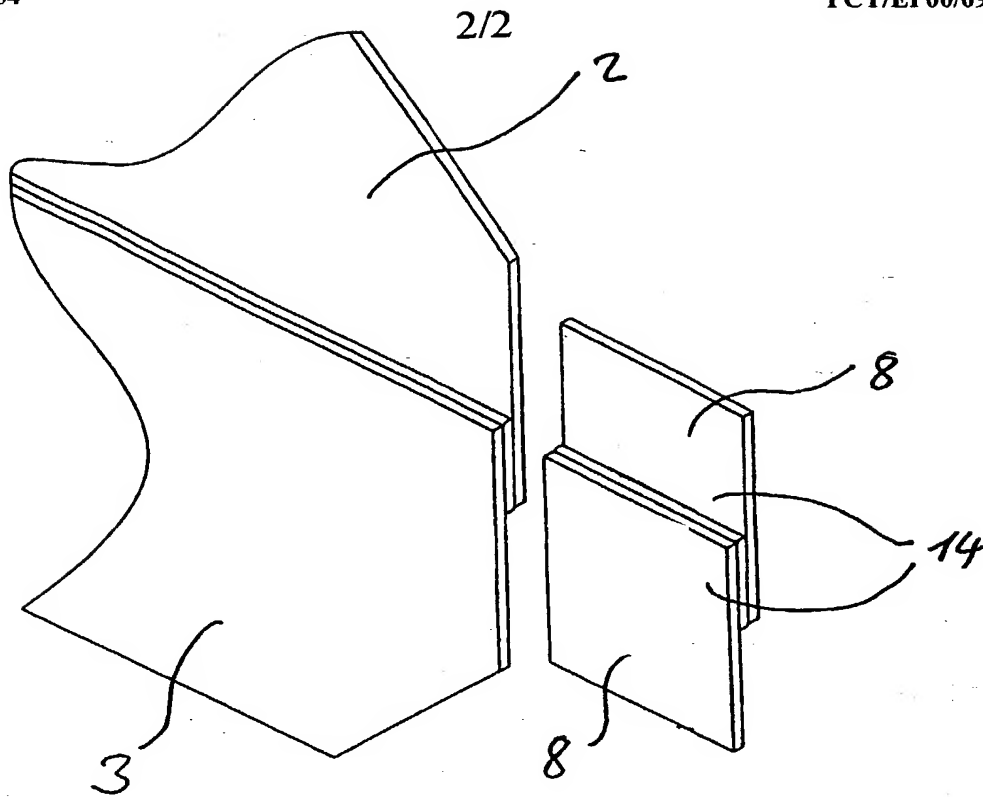


Fig. 2

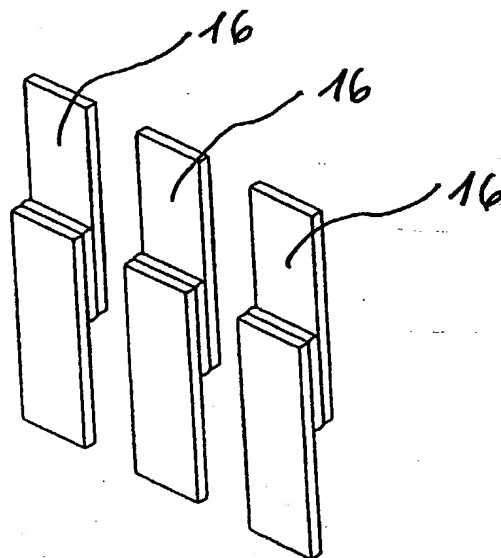


Fig. 3

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 den ein Patent für die Erfindung mit folgendem Titel  
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deren Beschreibung hier beigefügt ist, es sei denn (in diesem  
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the specification of which is attached hereto unless the  
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☒ wurde angemeldet am / was filed on: **21 September 2000**

unter der US-Anmeldenummer oder unter der Internationalen Anmeldenummer im Rahmen  
 des Vertrags über die Zusammenarbeit auf dem Gebiet des Patentwesens (PCT) /

as United States Application Number or PCT International Application Number: **PCT/EP00/09238**

und am / and was amended on (if applicable) **22 March 2002** abgeändert (falls zutreffend).

Ich bestätige hiermit, daß ich den Inhalt der oben angegebenen  
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Prior Foreign Applications / Frühere ausländische Anmeldungen

(Number) (Nummer)	(Country) (Land)	(Filing Date: day/month/year) (Anmeldetag : tag/monat/jahr)	Priority Not Claimed Priorität nicht beansprucht
19945556	Germany	23 September 1999	<input type="checkbox"/>
PCT/EP00/09238	PCT	21 September 2000	<input type="checkbox"/>

Ich beanspruche hiermit Prioritätsvorteile unter Title 35, US-Code, § 119(e) aller US-Hilfsanmeldungen wie unten aufgezählt.

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**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: *(list name and registration number)*

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<b>THOMAS KRUSCHWITZ</b> <i>Thomas Kruschwitz</i>	<i>01.07.2002</i>
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**JAN PROCKAT**

Unterschrift des dritten Erfinders / Third Inventor's signature:

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Staatsangehörigkeit / Citizenship:

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